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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/049,916	07/31/2002	Marc Long	S0441/270427	2386

23370 7590 04/07/2004

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EXAMINER

OMGBA, ESSAMA

ART UNIT PAPER NUMBER

3726

DATE MAILED: 04/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/049,916	Applicant(s) LONG ET AL.	
	Examiner Essama Omgba	Art Unit 3726	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-69 is/are pending in the application.
- 4a) Of the above claim(s) 17-69 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 July 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>7/23/02</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Election/Restrictions

1. This application contains claims directed to more than one species of the generic invention. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

The species are as follows:

Specie A: claims 1-16, drawn to a process for producing a component comprising casting a blank using a metal mold.

Specie B: claims 17-35, drawn to a process for producing a component comprising forming a blank by incrementally applying material to portions of the blank already formed.

Specie C: claims 36-46, drawn to a process for producing a component comprising forming a blank by consolidating a powderized material.

Specie D: claims 47 and 48, drawn to a process for producing a blank by metal injection molding.

Specie E: claims 49-69, drawn to a process forming a blank by consolidating a semi-solid material.

Applicant is required, in reply to this action, to elect a single species to which the claims shall be restricted if no generic claim is finally held to be allowable. The reply must also identify the claims readable on the elected species, including any claims

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subsequently added. An argument that a claim is allowable or that all claims are generic is considered non-responsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

2. The claims are deemed to correspond to the species listed above in the following manner:

See above listing of species.

The following claim(s) are generic: there is no generic claim.

3. The species listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, the species lack the same or corresponding special technical features for the following reasons: the technical feature of using a metal mold for specie A is not required for the other species, the technical feature of incrementally applying material to a blank already formed required in specie B is not required for the other species, the technical feature of consolidating a powdered material in Specie C is not required for the other species, the technical feature of metal injection molding of specie D is not required for the other species and the technical feature of consolidating semi-solid material in specie E is not required for the other species.

4. During a telephone conversation with Mr. James L. Ewing on March 5, 2004, a provisional election was made without traverse to prosecute the invention of Specie A, claims 1-16. Affirmation of this election must be made by applicant in replying to this Office action. Claims 17-69 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

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5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Drawings

6. Figures 1, 6a, 6b, 8a and 8b should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

7. The disclosure is objected to because of the following informalities: on page 6, line 2, "perform" should read --preform--.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Titanium '95:Science and Technology.

With regards to claim 1, Titanium '95 discloses a process for producing a component, the process comprising casting a blank using a metal mold which imparts sufficient heat transfer from the blank to achieve rapid cooling of the blank and subsequently forging the blank to produce the component, see pages 693-695. Although Titanium '95 does not explicitly disclose that a blank having a fine grain structure is produced as a result of such casting, however it would have been obvious to one of ordinary skill in the art at the time the invention was made that a fine grain structure would be produced by applying the process of Titanium '95.

For claims 2-6, Applicant should note that the claimed alloys are conventionally used in casting.

10. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Titanium '95 in view of High Temperature Metal Mold Casting (HTMMC).

Titanium '95 discloses a process for producing a component as shown above except for using a gravity metal mold. However HTMMC teaches using a gravity metal mold in casting components, see whole document. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have cast the component of Titanium '95 using a gravity metal mold, in light of the teachings of HTMMC, in order to simplify the manufacturing process.

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11. Claims 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Titanium '95 in view of Vacuum Diecasting (VC).

Titanium '95 discloses a process for producing a component as shown above except for using a gravity metal mold. However VC teaches using a vacuum metal mold in casting components, see whole document. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have cast the component of Titanium '95 using a vacuum metal mold, in light of the teachings of VC, in order to achieve a fast, simple manufacturing process. Applicant should note that VC process produces grain size in the 100 μm range. And that the ultimate tensile strength of components produced using vacuum diecasting is 10-12 percent higher than investment casting.

12. Claims 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Titanium '95 in view of Standard Specification (Designation: F 75-98), VC and HTMMC.

Titanium '95 discloses a process for producing a component, the process comprising casting a blank using a metal mold which imparts sufficient heat transfer from the blank to achieve rapid cooling of the blank and subsequently forging the blank to produce the component, see pages 693-695. Although Titanium '95 does not explicitly disclose that a blank having a fine grain structure is produced as a result of such casting, however it would have been obvious to one of ordinary skill in the art at the time the invention was made that a fine grain structure would be produced by applying the process of Titanium '95. Titanium '95 does not disclose the blank being a cobalt chromium alloy. However Standard Specification teaches casting a blank from a

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cobalt chromium alloy to produce an orthopedic component, see page 6. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have used a cobalt alloy in the process of Titanium '95, in light of the teachings of Standard Specification, in order to achieve excellent mechanical properties in the component. Furthermore VC teaches using vacuum die casting to produce component with refined grain structure with grain size in the 100 μm range, see whole document. Therefore it would have been obvious to use vacuum die casting in the process of Titanium '95/Standard Specification, in light of the teachings of VC, in order to achieve a fast, simple manufacturing process. Applicant should also note that gravity metal mold process is known as attested by HTMMC. Therefore it would have been obvious to use vacuum die casting in the process of Titanium '95/Standard Specification/VC, in light of the teachings of HTMMC, in order to simplify the manufacturing process.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Essama Omgba whose telephone number is (703) 305-2915. The examiner can normally be reached on M-F (10-7:30) First Friday off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on (703) 308-1789. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

eo
April 4, 2004

A handwritten signature in black ink, appearing to be "J. M. J. Ba", is located in the lower right quadrant of the page.